

## Evaluation of pediatricians' awareness of traditional and complementary medicine

Traditional and complementary medicine and pediatricians

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### Abstract

**Aim:** Today, the use of Traditional and Complementary Medicine (T&CM) methods in adults and children is increasing day by day in many countries. This situation makes clinicians' level of knowledge about T&CM even more important. In our study, we aimed to evaluate the awareness of pediatricians about T&CM applications.

**Material and Methods:** The survey was delivered electronically to 300 pediatricians, of whom 184 completed the survey completely. The survey consisted of a total of 15 questions, and the demographic characteristics of the participants, their level of knowledge about T&CM, their thoughts on T&CM applications in clinical practice, and the future of T&CM training were evaluated.

**Results:** 47.7% of the surveyed pediatricians were male and 54.3% were female. While only 9.8% of the participants stated that they received training on T&CM, 71.7% stated that they planned to receive training. Only 20.7% of the participants reported their knowledge level about T&CM as moderate and above. While the participants reported phytotherapy (39.4%) as the T&CM method they had the most knowledge about, acupuncture (31.8%) and Cupping Therapy / Hijama Therapy (23.5%) followed phytotherapy. 49.2% of the participants who suggested T&CM in their clinical practice described the level of knowledge about T&CM as moderate and above ( $p < 0.001$ ). 74.6% of the participants who recommend T&CM in their clinical practice state that they recommend it to their patients to support the immune system.

**Discussion:** Consequently, it is obvious that the level of knowledge about T&CM is not at the desired level for pediatricians and they have not received any training on T&CM at any stage of their education, except for individual training efforts. In practice, almost all pediatricians encounter at least one T&CM application or recommend it without realizing it or not. For this reason, we believe that the dissemination of T&CM training and integration into medical education will be appropriate for both clinicians' and patients' safety.

### Keywords

Attitude, Behavior, Knowledge, Pediatricians, Traditional and Complementary Medicine

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**Introduction**

Traditional and complementary medicine (T&CM) is a health practice with strong historical and cultural roots and global acceptability and applicability [1]. Health practices under T&CM may vary from country to country and from region to region. T&CM is an important source of primary health care for many communities and has been recognized as a component of providing “health for all” since the Alma-Ata Declaration in 1978 [2]. Traditional and Complementary Medicine methods according to the World Health Organization (WHO) are the whole of knowledge, skills and practices that can be explained or not based on theories, beliefs and experiences specific to different cultures, which are used in the prevention, diagnosis, improvement or treatment of physical and mental diseases as well as in maintaining good health [3].

Nowadays, the use of T&CM methods in adults and children is increasing in many countries day by day. Among the reasons why people benefit from T&CM methods are that they are compatible with their culture, less costly, easier to access, less or no interventional procedures, and they are seen as a hope for chronic, psychiatric and terminal diseases [3]. As a result of the increasing acceptance of these methods, physicians apply or recommend these methods more in their daily practices. It would be correct to think that the biggest factor in the increase in T&CM applications is increased awareness of physicians about these methods.

In this study, we aimed to evaluate the awareness of pediatricians about T&CM applications.

**Material and Methods**

After the approval of the ethics committee, the survey was delivered to 300 participants in the electronic environment. The survey consists of a total of 15 questions, the first four of which were aimed at determining the demographic characteristics of the participants (age, gender, institution, job title). In the second part of the survey, the knowledge levels of the participants about T&CM were evaluated. In this section, the knowledge levels of the participants about the 15 T&CM methods (Acupuncture, Apitherapy, Phytotherapy, Hypnosis, Leech applications, Homeopathy, Caryopractic, Cup application, Larva application, Mesotherapy, Osteopathy, Ozone application, prolotherapy, Reflexology and Music Therapy) defined by the Turkish Republic Ministry of Health, Department of Traditional and Complementary Medicine Practices, as well as their education and training plans about T&CM were evaluated.

In the third part of the survey, the T&CM practices of the participants in their clinical practice (what methods they apply to their patients and/or their recommendations) and their thoughts about T&CM in their future Medical Faculty education were evaluated.

According to the answers of the participants, they were divided into 2 groups as those who recommend T&CM methods to their patients in their clinical practice and those who do not, and a comparison was made.

In the survey, there were Likert-type questions as well as questions where more than one option could be ticked.

**Statistical analysis**

Statistical analyses were performed with SPSS 15.0 software

(SPSS Institute, Chicago, IL, USA). Parametric data were tested with Student’s t-test and presented as median and minimum-maximum, accordingly. Categorical data were analyzed with the two-tailed Pearson’s x2 test and were given as numbers. A p-value of less than 0.05 was considered statistically significant.

**Results**

The questionnaire was delivered electronically to 300 pediatricians, and 184 of them completed the questionnaire completely. Demographic characteristics of the 184 pediatricians are shown in Table 1. Of those who fully participated in the survey, 84 (47.7%) were male, 100 (54.3%) were female, and the median (min-max) age was 36 (26-65). Of the participants, 130 (70.7%) were still working at the University or Training and Research Hospital, 36 (19.6%) at a public hospital, and 18 (9.8%) at a private hospital. Forty (21.7%) of the participants were working as research assistants, 99 (53.8%) as specialists, and 45 (24.5%) as lecturers.

While only 18 (9.8%) participants stated that they had received training on T&CM, 132 (71.7%) stated that they planned to receive training. Only 38 (20.7%) participants stated their knowledge level about T&CM as moderate and above. While the

**Table 1.** Demographic data of survey participants (n=184)

Age, year median (min-max)	36 (26-65)
Gender (Male/Female), n (%)	84 (47.7) / 100 (54.3)
Institution, n (%)	
-State Hospital	36 (19.6)
-University or Training and Research Hospital	130 (70.7)
-Private Hospital	18 (9.8)
Current Position, n (%)	
- Research Assistant	40 (21.7)
- Specialist	99 (53.8)
- Lecturer	45 (24.5)
Completed Traditional and Complementary Medicine (TCM)-related training, n (%)	18 (9.8)
Plan to attend any training on TCM, n (%)	132 (71.7)
Description of the knowledge level of the participants about TCM, n (%)	
-None	46 (25)
-Very little	68 (36.9)
-Little	32 (17.4)
-Moderate	36 (19.6)
-Good	2 (1.1)
-Very good	-
TCM method, which is stated to be the most knowledgeable by the participants, n (%)	
-Acupuncture	42 (31.8)
-Hypnosis	1 (0.8)
-Cupping Therapy /Hijama Therapy	31 (23.5)
-Music Therapy	1 (0.8)
-Ozone Therapy	3 (2.3)
-Leech Therapy	2 (1.5)
-Phytotherapy	52 (39.4)
Recommendation of TCM methods in clinical practice by participants, n (%)	63 (34.2)
The frequency of recommendation, n (%)	
- Rarely	18 (28.6)
- Sometimes	41 (65.1)
- Often	4 (6.3)

TCM: Traditional and Complementary Medicine. Data are presented as median (min-max) or n (%).

**Table 2.** Comparison of participant responses according to TCM recommendation in clinical practice

	Recommend n=63	Do not recommend n=121	p
Age, year median (min-max)	35 (26-59)	36 (27-65)	0.929
Gender (Male/Female), n (%)	32 (50.8) / 31 (49.2)	52 (43) / 69 (57)	0.312
Institution, n (%)			
-State Hospital	7 (11.1)	29 (24)	<0.001
-University or Training and Research Hospital	41 (65.1)	89 (73.6)	
-Private Hospital	15 (23.8)	3 (2.4)	
Current Position, n (%)			
- Research Assistant	23 (36.5)	17 (14)	0.002
- Specialist	26 (41.3)	73 (60.3)	
- Lecturer	14 (22.2)	31 (25.7)	
Completed any training related to Traditional and Complementary Medicine (TCM), n (%)	18 (28.6)	0	<0.001
Description of the knowledge level of the participants about TCM (Moderate and upper), n (%)	31 (49.2)	7 (7.4)	<0.001
How often do you prescribe products such as Nurse Harvey's Colex Syrup, Immunol Syrup, Imuneks Syrup, Infanium Good Night Syrup? n (%)			
- Several times a day	13 (20.6)	2 (1.7)	<0.001
- Several times a week	4 (5.4)	22 (18.2)	
- Several times a month	34 (54.0)	21 (17.4)	
- Several times a year	12 (19.0)	76 (62.8)	
Do you think that TCM training should be carried out during education at the Faculty of Medicine? Yes, n (%)	63 (100)	99 (61.1)	<0.001
Do you think that TCM training should be carried out during specialization training? Yes, n (%)	63 (100)	91 (59.1)	<0.001

TCM: Traditional and Complementary Medicine. Data are presented as median (min-max) or n (%).

participants stated phytotherapy (39.4%) as the T&CM method they were most knowledgeable about, acupuncture (31.8%) and Cupping Therapy / Hijama Therapy (23.5%) followed phytotherapy. The comparison of the participants according to the T&CM recommendations in their clinical practice is shown in Table 2. While 23.8% of the participants who suggested T&CM in their clinical practice worked in a private hospital, only 2.4% of the participants who did not recommend T&CM in their clinical practice worked in a private hospital ( $p<0.001$ ). While 28.6% of the participants who suggested T&CM in their clinical practice stated that they received training on T&CM, there was no participant who received training among the participants who did not recommend T&CM in their clinical practice ( $p<0.001$ ). 49.2% of the participants who suggested T&CM in their clinical practice described the level of knowledge about T&CM as moderate and above ( $p<0.001$ ). The rate of those who stated that T&CM should be included in medical school education was 61.1% versus 100% ( $p<0.001$ ). Similarly, the proportion of participants who stated that T&CM should be present in residency training was higher than those who recommended T&CM in their clinical practice (59.1% vs. 100%;  $p<0.001$ ).

The evaluation of clinical practice and recommendation preferences of the participants who recommended T&CM in their clinical practice is shown in Table 3. The T&CM recommendations of the participants who suggested T&CM in their clinical practice were questioned. While 100% of them stated that they recommended phytotherapy, 52.3% of them

**Table 3.** Evaluation of participants recommending TCM in clinical practice (n=63)

How often do you recommend TCM to your patients in clinical practice? n (%)	
-Rarely	1 (28.6)
-Sometimes	41 (65.1)
-Often	4 (6.3)
What TCM do you recommend to your patients?, n (%)	
-Acupuncture	33 (52.3)
-Apitherapy	1 (1.5)
-Homeopathy	7 (11.1)
-Cupping Therapy /Hijama Therapy	27 (42.8)
- Maggot Therapy	1 (1.5)
-Mesotherapy	14 (22.2)
-Music Therapy	14 (22.2)
-Ozone Therapy	6 (9.5)
-Prolotherapy	1 (1.5)
-Reflexology	5 (7.9)
-Leech Therapy	2 (3.1)
-Phytotherapy	63 (100)
For which medical conditions do you recommend TCM to your patients in clinical practice? n (%)	
- Upper respiratory tract infections	43 (68.2)
- To support the immune system	47 (74.6)
- Diarrhea treatment	17 (26.9)
-Constipation treatment	23 (36.5)
-Gastrointestinal, other	19 (30.1)
- Nutritional support	10 (15.8)
-Pain treatment	12 (19.0)
-Others (Fatigue, breast milk support, etc)	11 (17.5)

TCM: Traditional and Complementary Medicine. Data are presented n (%).

stated that they recommended acupuncture and 42.8% of them recommended Cupping Therapy / Hijama Therapy. When the participants who suggested T&CM in their clinical practice were questioned for which medical conditions they preferred or recommended T&CM, the highest response rate was "To support the immune system" with 74.6%.

### Discussion

In the present study, the answers of 184 participants who participated in the survey in the electronic environment and answered the survey questions completely were evaluated. According to these results, factors affecting the participants' T&CM recommendations in their daily practices were institution, current position and having received training on T&CM. Nearly 20% of the participants who stated that they did not recommend T&CM in their daily practice, prescribed herbal products such as Nurse Harvey's Colex Syrup, Immunol Syrup, Imuneks Syrup, Infanium Good Night Syrup several times a week, and more than 60% stated that T&CM education should be given within the medical faculty and specialty education. Nowadays, the use of T&CM methods is increasing day by day in many countries. Reasons why people benefit from T&CM services include cultural compatibility, lower cost, easier access, no or fewer interventional procedures, and hope for chronic, psychiatric and terminal diseases. In recent years, the use of T&CM applications has increased in children, parallel to adults, all over the world [4].

Recent studies show that the use of T&CM in children is quite common, and the frequency of use varies between 18.4% and

95.0% [4,5]. According to the data of the American Academy of Pediatrics, the frequency of T&CM use is 20-40% in healthy children and 50% in children with the disease, which cannot be underestimated [6]. In our study, 34.2% of the participants stated that they recommend T&CM methods to their patients in their clinical practice. T&CM methods, which were previously applied to children by parents but refrained from telling doctors, are now frequently recommended by doctors to their patients [7,8].

In a review made in the past years, it was stated that the use of T&CM in children in Turkey is 60% [9]. In the face-to-face interviews conducted by Öztürk et al. with parents, it was determined that parents preferred T&CM methods most frequently in the treatment of respiratory and digestive system diseases [10].

In another similar study, it was determined that 52% of parents preferred T&CM methods from the neonatal period [11]. In this study, parents stated constipation as the most common reason for choosing T&CM. The authors stated that 31% of the parents used herbal tea and 28% used phytotherapy methods such as olive oil/almond oil without consulting a doctor.

Studies on pediatric cancer patients revealed that phytotherapy methods are the most commonly used T&CM treatments [12-14]. Among the factors affecting the use of T&CM by parents, were the age of the parents and their children, parental education, occupation or gender [9].

In the surveys conducted about where parents get information about T&CM treatment for their children, relatives and friends have been identified as the most important source of information [9]. Between 2% and 17% of the parents stated that they received information about T&CM from physicians or nurses [10,15,16].

While all these studies evaluated parents' interest in T&CM methods and their demographic characteristics, in the present study, pediatricians' interest in T&CM methods, their level of knowledge and their use in clinical practice were evaluated. Pediatricians participating in our study stated that their knowledge of phytotherapy and acupuncture was higher than other T&CM methods. In fact, this situation correlates with the literature information indicating that phytotherapy is used more frequently in pediatric patients [17]. In addition, the majority of the participants in this study stated that they recommend T&CM methods to their patients in their clinical practice for upper respiratory tract infections, to support the immune system and constipation treatment. This shows that pediatricians prefer T&CM methods in the treatment of the most common conditions they encounter in their daily practice. It is known that the prevalence of childhood constipation reaches 29.6% [18]. Similarly, the fact that respiratory tract infections are the most common cause of hospital admissions and hospitalizations in childhood also explains why pediatricians most frequently recommend T&CM for upper respiratory tract infections in their daily practice [19]. Although there is limited evidence in the literature supporting the effectiveness of T&CM methods for upper respiratory tract infections, there is an emerging evidence base for some interventions [20]. In a double-blind, randomized, active-controlled study, garlic powder tablets were found to be significantly more effective than benzimidazole in

preventing acute respiratory diseases in children aged 7-16 years [21]. Similarly, positive findings were reported in two systematic reviews examining the efficacy of Ivy Leaf (*Hedera Helix*) and elderberry and elderflower (*Sambucus nigra*) for the treatment of upper respiratory tract infections [22,23].

Similar to the results of the present study, phytotherapy stands out among T&CM methods for the treatment of upper respiratory tract infections. In a study involving T&CM practitioners in the treatment of Upper respiratory tract infections in children, the most frequently recommended treatments were lifestyle change (95%), nutrition/diet-based treatments (91%), and vitamin/mineral supplements (87%) [20]. In this study, practitioners focused on four basic concepts in the decision-making process: the approach to management, individualization, do no harm, and collaborative practice.

### Conclusion

In conclusion, the level of knowledge about T&CM is not at the desired level in pediatricians and except for individual training efforts, they did not receive any training on T&CM at any stage of their medical school and specialty training, the fact that Turkish society uses T&CM frequently makes it necessary to have knowledge about it. In practice, almost all pediatricians encounter at least one T&CM application or recommend it without realizing it or not. For this reason, we believe that the dissemination of T&CM education and even its integration into medical education would be more appropriate for safety of both clinicians and patients.

### Scientific Responsibility Statement

The authors declare that they are responsible for the article's scientific content including study design, data collection, analysis and interpretation, writing, some of the main line, or all of the preparation and scientific review of the contents and approval of the final version of the article.

### Animal and human rights statement

All procedures performed in this study were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. No animal or human studies were carried out by the authors for this article.

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### Conflict of interest

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